



SQL Server 2005 Books Online (November 2008)

Defining Semiadditive Behavior

Semiadditive measures, which do not uniformly aggregate across all dimensions, are very common in many business scenarios. Every cube that is based on snapshots of balances over time exhibits this problem. You can find these snapshots in applications dealing with securities, account balances, budgeting, human resources, insurance policies and claims, and many other business domains.

Add semiadditive behavior to a cube to define an aggregation method for individual measures or members of the account type attribute. If the cube contains an account dimension, you can automatically set semiadditive behavior based on the account type.

To add semiadditive behavior, you use the Business Intelligence Wizard, and select the **Define semiadditive behavior** option on the **Choose Enhancement** page. This wizard then guides you through the steps of identifying which measures have semiadditive behavior.

Define Semiadditive Behavior

On the **Define Semiadditive Behavior** page of the wizard, you select how to define semiadditivity by selecting one of the following options:

Turn off semiadditive behavior

Removes semiadditive behavior from a cube in which semiadditive behavior was previously defined. This selection resets a measure to **SUM** if it is set to any of the following aggregation function types:

- ◊ By Account
- ✧ Average of Children
- ✧ First Child
- ✧ Last Child
- ✧ Last Nonempty Child
- ✧ First Nonempty Child
- ◊ None

This option does not change measures with a regular aggregation function: **Sum**, **Min**, **Max**, **Count**, or **Distinct Count**.

The wizard has detected the "Account" account dimension, which contains semiadditive members. The server will aggregate members of this dimension according to the semiadditive behavior specified for each account type.

Causes the system to set all measures from a measure group dimensioned by an Account type dimension to the By Account aggregation function and the server will aggregate members of the dimension according to the semiadditive behavior specified for each account type.

Note:

This option is selected by default if the wizard detects an Account type dimension.

Define semiadditive behavior for individual measures

Selects the semiadditive behavior of each measure individually. The default setting is **SUM** (fully additive).

Note:

This option is selected by default if the wizard does not detect an Account type dimension.

For each measure, you can select from the types of semiadditive functionality described in the following table.

Semiadditive function	Description
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Average of Children	The aggregation of a member is the average of its children.
ByAccount	The system reads the semiadditive behavior specified for the account type.
Count	The aggregation is a count of members.
Distinct Count	The aggregation is a count of unique members.
First Child	The member value is evaluated as the value of its first child along the time dimension.
FirstNonEmpty	The member value is evaluated as the value of its first child along the time dimension that contains data.
LastChild	The member value is evaluated as the value of its last child along the time dimension.
LastNonEmpty	The member value is evaluated as the value of its last child along the time dimension that contains data.
Max	The standard maximum aggregation function is applied.
Min	The standard minimum aggregation function is applied.
None	No aggregation is applied.
Sum	The standard summation function is applied.

Any existing semiadditive behavior is overwritten when you complete the wizard.

See Also Concepts

Defining and Configuring a Measure [[http://msdn.microsoft.com/en-us/library/ms365391\(SQL.90\).aspx](http://msdn.microsoft.com/en-us/library/ms365391(SQL.90).aspx)]

Help and Information

Getting SQL Server 2005 Assistance [[http://msdn.microsoft.com/en-us/library/ms166016\(SQL.90\).aspx](http://msdn.microsoft.com/en-us/library/ms166016(SQL.90).aspx)]

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Standard vs Enterprise Edition

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It would be good if it was stated here that (I believe) the "average of children" and "none" semi-additive aggregations are only available in the enterprise edition of the product. I've seen comments in various newgroups with different information on the subject, many of which link to this article but this article fails to explain the possible limitations with the standard edition.

Tags: edition standard